REMARKS

Claims 1-68 are pending. Claims 1-68 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Whitfield (U.S. Patent No. 6,693,921) in view of Hardy (U.S. Patent No. 6,370,120) in further view of Clark (U.S. Patent No. 6,741,569). Claims 1, 18, 35, and 52 have been amended. Claims 69-71 have been added. Claims 1-71 remain in the case for reconsideration. Reconsideration is requested. No new subject matter has been added.

Status of the Application

Applicants respectfully request that the finality of the Office Action be withdrawn. The Examiner has submitted a new reference (Clark) and argued a new ground of rejection for claim 35. The new ground of rejection was not necessitated by an amendment, as claim 35 had not been previously amended. Accordingly, Applicants submit that the finality of the instant Office Action is premature under MPEP 706.07(a), and requests that the finality of the instant Office Action be withdrawn under MPEP 706.07(d).

Claim Rejections – 35 U.S.C. § 103

Claim 1 has been amended to specify measuring durations for multiple different contiguous variable duration packet loss episodes and determining a burstiness statistic for quantifying non-uniform lost packet distribution with respect to the received packets within the sequence according to the measured durations for the multiple different variable duration packet loss episodes. This is clearly shown in FIG. 6 where different variable length packet loss episodes are each quantified using different burstiness statistics.

Neither Whitfield, Hardy nor Clark suggests measuring the different durations of multiple packet loss episodes and determining a burstiness statistic according to the measured durations for the multiple different variable duration packet loss episodes as specified in claim 1.

The Examiner acknowledges that neither Winfield nor Hardy disclose determining a burstiness statistic for quantifying non-uniform lost packet distribution with respect to the received packets within the sequence. Sept. 29, 04, Office Action, Page 4. However, the Examiner states that Hardy shows the average rate of packet loss is used to determine the quality of the received packets. The Examiner also states that Hardy shows measuring and statistically summarizing the frequency and duration of dropouts due to lost packets.

However, there is nothing in Hardy that suggests measuring the duration of multiple different contiguous variable duration packet loss episodes and determining a burstiness

statistic for quantifying non-uniform lost packet distribution with respect to the received packets within the sequence according to the measured durations for the multiple different variable duration packet loss episodes.

Furthermore, neither Clark nor Whitfield provide any motivation to combine the inventions described therein. The Examiner alleges that "[i]t would have been obvious at the time of the invention to adapt the method, apparatus and processing article of Whitfield by determining a burstiness statistic for quantifying non-uniform lost packet distribution, as shown by Clark," since the "modification would provide a more accurate quality indication of the packet transmission due to the emphasis on subjective quality based on a statistical distribution of packet loss over time." Final Office Action, page 5.

Even if Clark taught determining the burstiness statistic, this combination would not have provided motivation for an improved transmission quality indicator since Whitfield does not determine any transmission quality indicators. In other words, Whitfield's system 100 would not be motivated to increase the accuracy of a transmission quality indicator with a burstiness statistic, since Whitfield does not determine any such indicator. Thus combining the references, as the Examiner suggests, is to no avail. Applicant therefore respectfully requests that this rejection be withdrawn and the pending claims be allowed to issue.

Claim 2 has been amended to specify determining the burstiness statistic according an identified longest one of the measured variable duration packet loss episodes. This is clearly described in FIG. 5 where the longest packet loss episode is determined in block 520. In addition to the limitations specified in claim 1, there is also no suggestion in Whitfield, Hardy and Clark generating a burstiness statistic according an identified longest one of the measured variable duration packet loss episodes.

Claims 3, 18, 20, 35, 37, and 54 have been amended to include the limitation of identifying the durations for multiple different contiguous variable duration packet loss episodes, calculating an average duration for the identified durations of the different contiguous variable duration packet loss episodes, and determining a burstiness statistic for quantifying non-uniform lost packet distribution with respect to the received packets within the sequence according to the calculated average duration for the different contiguous variable duration packet loss episodes. This is clearly shown in FIG. 5 where the average packet loss episode duration (ADU) is derived in block 550.

Neither Whitfield, Hardy nor Clark suggest deriving burstiness statistics according to an average packet loss episode duration for multiple variable duration packet loss episodes as specified in claims 3, 18, 20, 35, 37, and 54.

Claims 4, 24, and 52 have been amended to specify measuring durations for multiple different contiguous variable duration packet loss episodes and determining a burstiness statistic according to the measured durations for the multiple different variable duration packet loss episodes and independently of a packet loss rate for the received packets. This is clearly shown in FIG. 6 where the three waveforms A, B and C have the same 20% drop out rate but each have different the ADU values.

Whitfield, Hardy and Clark each generate sound quality values that are associated with the rate of packet loss. For example, Hardy at col. 7, lines 8-14 and as shown in FIG. 2, table 210, specifies that the quality measurement of objective characteristics such as the packet loss rate (PLR) are used to determine subjective quantifications. Hardy also states at column 7, line 29 that the frequency (ie. rate) of the dropouts are used to calculate the probability the speech will be perceived as being distorted. Clark similarly at col. 7, lines 40-60 measures a low loss rate or high loss rate for the lost packets.

Basing burstiness statistics, or a figure of merit, on the packet drop out rate can generate inaccurate sound quality representations. For example, as shown in FIG. 6, each of the three waveforms A, B, and C has a same 20% dropout rate. However, waveform C will have a much poorer sound quality than waveform A. By generating the ADU burstiness statistic independently of the packet drop rate, a more accurate indication of sound quality can be derived.

Claim 69 recites a method for decoding packets, which includes a processor that is adapted to determine an intended sequence of the sound data from the received packets, arrange the received packets in the sequence, infer lost packets in locations of the sequence not having a corresponding received packet and determine a burstiness statistic from the locations of the lost and received packets. This is described in the specification on pages 8 and 9 and in figure 4.

The Examiner alleges that Whitfield discloses a receiving system 100 that determines the sequence of received packets, arranges the received packets into the proper sequence and infers lost packets in the sequence where there are no received packets. Whitfield, column 4, lines 40-67 and column 5, lines 1-17. According to the Examiner, since Clark "consider[s] the effects of 'bursty' packet loss" in determining the transmission quality, that Clark must also determine the burstiness statistic as specified in the claims. Clark, column 4, lines 15-20. Clark, however, "consider[s] the effects of 'bursty' packet loss" from the aggregate totals of lost and received packets, not the *locations* of the lost and received packets. Clark, column 4, lines 15-20; column 7, lines 42-65. Since Clark does not use the locations of the lost and

received packets to determine any statistic, Clark does not teach the burstiness statistic as specified in claims 69-71.

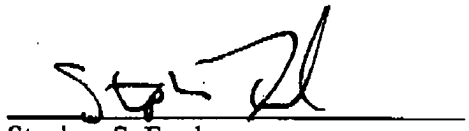
For the reasons stated above, claims 1-71 are patentable under 35 U.S.C. § 103(a) over Whitfield in view of Hardy in further view of Clark.

CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-71 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



Stephen S. Ford
Reg. No. 35,139

MARGER JOHNSON & McCOLLOM, P.C.
1030 SW Morrison Street
Portland, OR 97205
503-222-3613
Customer No. 20575